Faculty of Engineering

PARTICIPANT INFORMATION SHEET

This sheet should give participants the information that they need to decide whether they wish to take part in the project. It should provide participants with contact details in case they would like to discuss the project further. It should provide clear information on the essential elements of the specific project: the topic of the project, the voluntary nature of involvement, what will happen during and after the research, what the project involves for the participant, how data will be stored, and any potential risks or inconvenience for the participant balanced against any possible benefits for the participant or the wider community, including the advancement of knowledge and understanding.

PLEASE MODIFY THE TEMPLATE BELOW TO SUIT YOUR PROJECT.

University of BRISTOL

Participant Information Sheet

Project title: Turrellian LED lamp

My name is Humphrey Curtis and I am a postgraduate student in Computer Science at the University of Bristol. I am investigating the effects of an IoT 'Turrellian' LED lamp orientated by your skin temperature and pulse – designed to improve your mood. Testing of the device will take place at a location of your choice and I will fully supervise the entire self-testing procedure via Skype call – thus ensuring it is conducted safely, ethically and properly.

Therefore, participation requires you to have access to the Skype App via computer or mobile phone. Furthermore, both lamps to be used in testing will be delivered on the day of testing via courier. Before participation, you will fully understand why the research is being conducted and what it would involve for you. Please do not hesitate to ask me questions if anything is unclear.

What is the purpose of the project?

My two hypotheses centre on qualitative and quantitative feedback from participants. Firstly, I believe that the emotional state of a person will be positively altered by the LED lamp's light changes which are based on their current pulse and skin temperature. Subsequently, the Turrellian lamp will be better received compared to a commercial counterpart – namely a Phillips Hue smart bulb.

Therefore, the goal of the study is to develop an innovative IoT device, which is capable of being aware of individuals heart rate and skin temperature and thus can offer an enhanced and improved lighting experience for users. Consequently, research conclusions will be primarily drawn on users experience and opinion of the device and interface. The pulse and skin temperature sensor is not a medical import – consequently any pulse or skin temperature readings will not be reviewed medically.

Questionnaire questions to be answered via email web link hosted on google forms follow the Attrakdif user experience methodology and thus centre on you scoring the device based on word pairs. For example, is the device professional or unprofessional? Another example includes, does the device offer innovation or traditionality?

Why have I been invited to participate?

You have been invited to participate as a part of an agreement made with the senior management of your company – who are interested in taking part in a Skype based survey on an ambient lighting IoT device which is controlled by your current pulse and skin temperature.

Participation in this study is voluntary - you are free to withdraw during the study at any time and without having to give a reason. For your participation in the Skype based testing, you will be given a £10 Amazon gift certificate as a gesture of good will.

Do I have to take part?

It is up to you to decide whether you wish to participate in the project. I will describe the study and go through this information sheet emailed to you, before you participate and answer any questions you might have via Skype call. If you agree to take part, I will then ask you to sign a consent form, scan or photograph and email it back to me. You are free to withdraw at any time, without giving a reason – the cut-off date is by August the tenth.

What will happen to me if I take part and what will I have to do?

Firstly, we will pre-arrange a desirable time to Skype call and discuss the experiment. On the day of testing, a box containing both fully sanitised lamps will be delivered to you via courier. At the start of the skype call, there will be an initial explanation of the study and an opportunity to ask questions. At this point, you will be asked for your verbal consent and to proceed.

Written consent will then be obtained via signing the emailed consent form document – scanning it or photographing and resending the document via email back to me. Once this has been successful, experimentation will continue. You can even sign the consent form virtually by typing their name on the dotted lines of the PDF document.

You will then be asked to wear a non-invasive sensor which is worn on your pulse point on your wrist – just like a watch or Fitbit. Consequently, you will then be asked to interact with the light device yourself and enjoy the LED light display – which is guided by your pulse and skin temperature for a short period of time. The pulse and skin temperature sensor is not a medical import – consequently the data will not be reviewed medically.

Upon completion of the interaction exercise, you will be asked to complete a multiple-choice questionnaire about your experience with the IoT LED Turrellian device, which will be delivered via email link. After completing the questionnaire, there will be the opportunity to briefly give your opinions informally or ask questions. Following this, you will be invited to use a Phillips Hue smart bulb for a short period of time before filling out another similar questionnaire concerning your thoughts on the Phillips Hue. Please understand that the interaction and your spoken responses will be subject to audio and/or video recording of the Skype call.

Therefore for any concerns raised about the security and safety of calling over Skype – please familiarise yourself with Skype's legal policies, terms and conditions: https://www.skype.com/en/legal/

Time commitment

Start of skype call, task explanation and informed consent: 10 minutes
Bodily sensor demonstration: 10 minutes
LED interactive exercise: 10 minutes
First questionnaire filling: 10 minutes
Phillips Hue interaction: 10 minutes
Second questionnaire filling: 10 minutes
Full sanitization, cleaning and explanation of enclosed return label for courier: 10 minutes
Total: 60 minutes maximum

Prerequisites

The exercise will not be deceptive at all. Participants can freely ask questions at any time during experimentation throughout the Skype call – thus avoiding any forms of confusion. Furthermore, the courier will arrive later that day and participants can return the lamp safely by leaving it outside their location for easy collection.

What are the possible disadvantages and risks involved in taking part in the project?

There are no known risks associated with completion of the questionnaire or wearing a single wrist sensor which documents pulse and heart rate. Full sanitization and cleaning will take place on both lamps before anyone uses them thus negating any risk to participants from touching Coronavirus contaminated surfaces.

The lighting will respond to your skin temperature and heart rate readings in order to provide captivating coloured lighting which is designed to improve your mood. If the lighting is found to be distressing and/or uncomfortable – either LED light device can be immediately switched off and we can easily curtail experimentation prematurely. Withdrawal from experimentation is completely acceptable and no questions will be asked.

As coordinator I will fully adhere to the health and safety guidelines of the corporate partner and respect the current procedures concerning their staff – they as a company have provided complete support and are happy to proceed with the Skype-based trial during this pandemic.

What are the possible benefits of taking part?

A £10 Amazon gift voucher is available for your participation as well as involvement in some new research and lastly, the light display from the lamp should be enriching and enjoyable.

Will my participation in this project be kept confidential?

No personally identifying information will be recorded on the questionnaire or with regards to data collected. Any personal information recorded as part of the consent process or through the experimentation will be kept strictly confidential. Any final write-ups of the data gathered from the questionnaire will not include any information that can be linked directly to you. Any intermediate CSV files containing data will be stored so that your name is not associated with it - using a randomly generated number (eg. Participant 21987).

All data will be handled confidentially and anonymously. The data collected from this study will be used in an MSc thesis for submission to the University of Bristol. It potentially may also be used in articles for publication in journals and conference proceedings. Results from the research will be presented in accordance with rules for anonymity such that the results

cannot be traced to individual participants. All anonymised data on my personal computer will be permanently destroyed upon my graduation in September 2020.

The anonymous data will be encrypted (as per University of Bristol Policy) and stored by the student on my password-protected laptop only accessible to myself. The questionnaire will be hosted on Google Forms or either an A4 piece of paper provided. Thus, your use of these services during your participation may also be subjected the privacy policies drawn up by these corporations, which the student does not have any influence over. If this is a matter of interest to you, the relevant privacy policies are available to view through the following links:

Google Forms: https://policies.google.com/privacy

This study fully adheres to guidelines concerning University of Bristol GDPR guidelines for 2020: http://www.bristol.ac.uk/secretary/data-protection/gdpr/

All anonymised data will be stored locally on my laptop with absolutely none stored in the cloud thus mitigating any data breaches. The data will equally be stored in anonymised CSV files. If you have any further questions about the management of your data, please do not hesitate to ask.

What will happen to the results of the research project?

The data collected from this study will be used in an MSc thesis for submission to the University of Bristol. It potentially may also be used in articles for publication in journals and conference proceedings. Results from the research will be presented in accordance with rules for anonymity such that the results cannot be traced to individual participants. A copy of my complete dissertation or any research publication is immediately available upon request.

Who is organising and funding the research?

University of Bristol School of Computer Science, Electronic Engineering and Mathematics. It is funded by myself, Humphrey Curtis, MSc Computer Science with the help of my supervisor Dr Paul O'Dowd.

Who has reviewed the study?

Supervisor for the project is University of Bristol Lecturer Dr Paul O'Dowd he is contactable at paul.odowd@bristol.ac.uk.

If you have any questions concerning the study, please feel free to ask at any point; you are also free to contact the student with the details provided above if you have questions at a later time. This study has been approved on ethical grounds by the University Of Bristol Faculty Of Engineering Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Faculty Ethics Officer (http://www.bris.ac.uk/red/support/governance/ethics/ethics.html).

Further information and contact details

If participants have any concerns related to your participation in this study, please email the the Faculty of Engineering Research Ethics Committee, via the Research Governance Team, research-governance@bristol.ac.uk.

Thank you for your interest and cooperation. If you would like more information about the research project, please feel free to make contact.

Many thanks for your time,

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